ABSTRACT

The present invention relates to an apparatus designed to perform chemical reaction kinetics studies and more particularly to an apparatus which is capable of conducting accelerated automated kinetics studies with user-defined temperature profiles and sampling periods. The apparatus includes at least one hot reaction block for heating one or more reaction vessels and at least one cold reaction block for cooling the one or more reaction vessels after heating thereof. The apparatus includes a robotic device for transferring one reaction vessel from one hot reaction block to one cold reaction block and a controller having a user interface for inputting a predetermined temperature profile and a predetermined sampling interval. The controller is in communication with the plurality of reaction blocks and the robotic device so as to instruct the robotic device to transfer one reaction vessel from one hot reaction block to one cold reaction block at a predefined transfer time within the predetermined sampling interval. The predetermined temperature profile represents the temperature of at least one of the hot reaction blocks over a time period of the study.

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